

WHAT IS CLAIMED IS:

1. A control circuit for a power supply apparatus comprising a plurality of power converter circuits connected in parallel; each power converter
5 circuit comprising a switch circuit for forming a pulse-like waveform by switching an inputted power according to a pulse driving signal, and a smoothing circuit for converting the pulse-like waveform into a direct current and outputting the direct current;

10 the control circuit comprising a feedback control unit for changing, according to a magnitude of an arithmetic value summing a proportion signal in proportion to a deviation of an output voltage of the power converter circuit from a reference voltage and an
15 integration signal integrating the deviation, a duty ratio of the pulse driving signals applied to switching devices of the power converter circuits; and a phase control unit for causing the pulse driving signals to synchronize phases thereof when the proportion signal
20 or integration signal exceeds a threshold thereof.

2. A control circuit according to claim 1, wherein said threshold is variable.

3. A power supply apparatus comprising the control apparatus according to claim 1, wherein the
25 plurality of power converter circuits are connected in parallel, and wherein the power converter circuits are

controlled by the control circuit.